1. The 1st to 8th successive ionisation energies, in kJ mol^{-1}, of an element in period 3 are:

1012	1903	2912	4957	6274	21,269	25,398	29,855

What is the element?

A Al

B Si

C P

D S

Your answer **C**

[1]

big 'jump' indicates moving to an inner shell.

5 e^- in outer shell so element is in group 5 (15) ∴ P

2. Which statement best explains why nitrogen has a larger first ionisation energy than oxygen?

A N atoms have less repulsion between p-orbital electrons than O atoms.

B N atoms have a smaller nuclear charge than O atoms.

C N atoms lose an electron from the 2s subshell, while O atoms lose an electron from the 2p subshell.

D N atoms have an odd number of electrons, while O atoms have an even number.

Your answer A

[1]